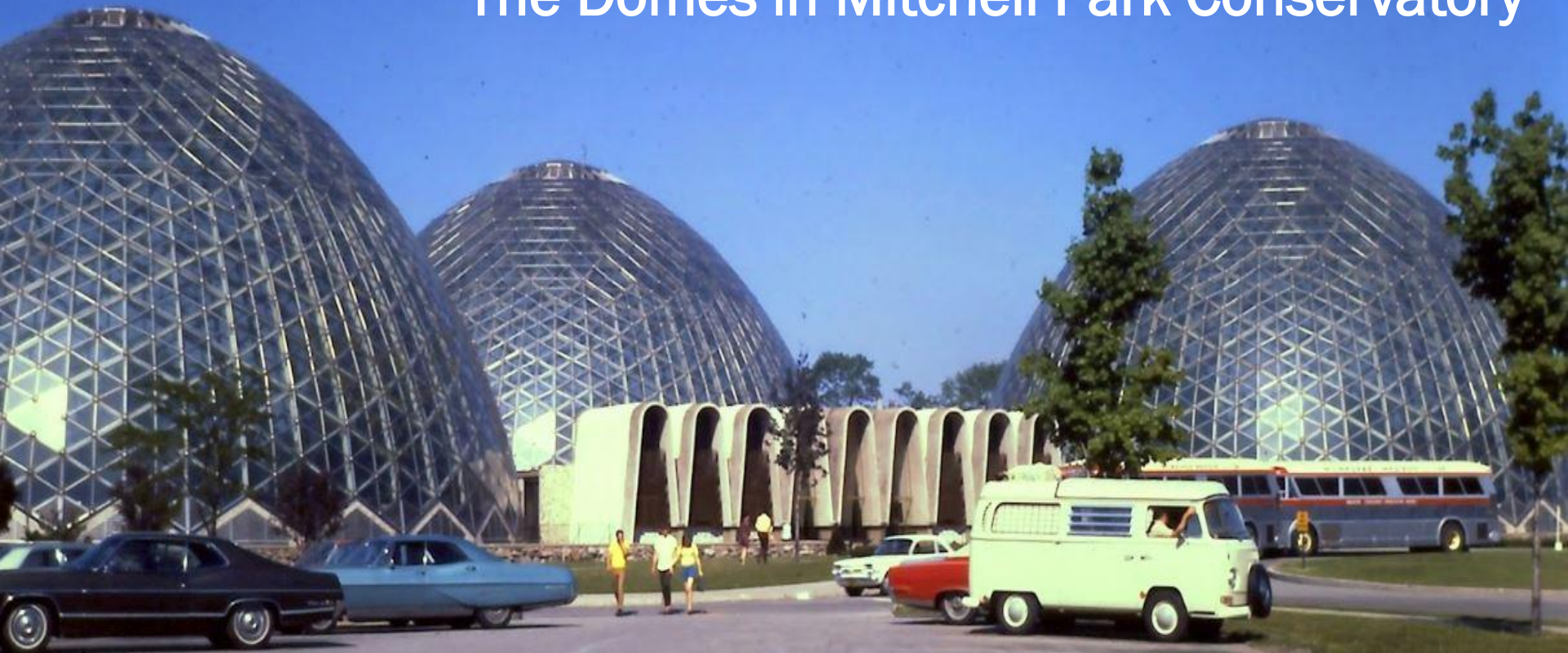


Milwaukee County Committee of the Whole Public Hearing February 24, 2016

The Domes in Mitchell Park Conservatory



John Dargle, Jr., CPRP, Director of Parks, Recreation, & Culture
Jeremy Theis, P.E., Director of Facilities Management Division



File # 16-136

From the Milwaukee County Board of Supervisors (County Board), requesting an informational report from the County Executive and the Director, Department of Parks, Recreation, and Culture, on the closure of The Domes in the Mitchell Park Conservatory, the status of the \$1,000,000 in inspection and repair funds approved by the County Board in 2014 and 2015 to address deferred maintenance of The Domes, disclosure of engineering reports, including all options considered with respective cost estimates, and specific plans to reopen these iconic structures.

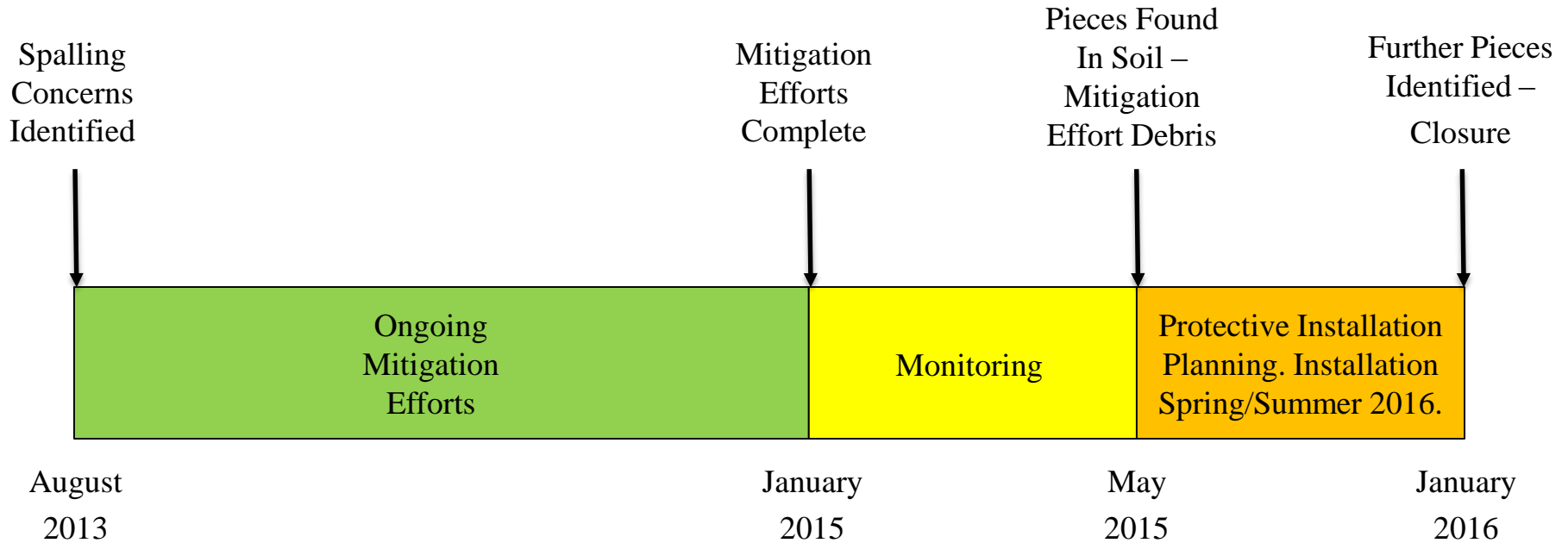




Preserving the Conservatory's Legacy

Our plan is to preserve and protect the Conservatory's legacy through a robust community planning process with active public involvement and ongoing respect for the history and unique heritage of the Mitchell Park Horticultural Conservatory.







The Domes Construction





Challenges with Domes Design & Use

1. Inability to affordably access interior or exterior above 20'.
 - Exterior typically requires crane for each maintenance action.
 - In 2013, located specialized lift to access Arid & Tropical Dome interiors.
 - Few economies of scale due to unique requirements for repair.
2. ~9,400 Windows
 - Each cut to size when replaced.
 - Due to racking/settling, every piece should be verified off site prior to install.
3. ~5,100 Hub Connections (aluminum to concrete frame)
 - Each a point of potential corrosion and spalling due to steel baseplate.
4. Internal Drainage System internal to aluminum framing
 - Clogged throughout structure and virtually inaccessible due to #1.
 - Tropical Dome constantly dripping inside due to backup in clogged drains.
5. Ensuring plant life maintained throughout repairs
 - Particularly challenging in Arid and Tropical Domes.
 - Must be trimmed back by staff to access interior walls.

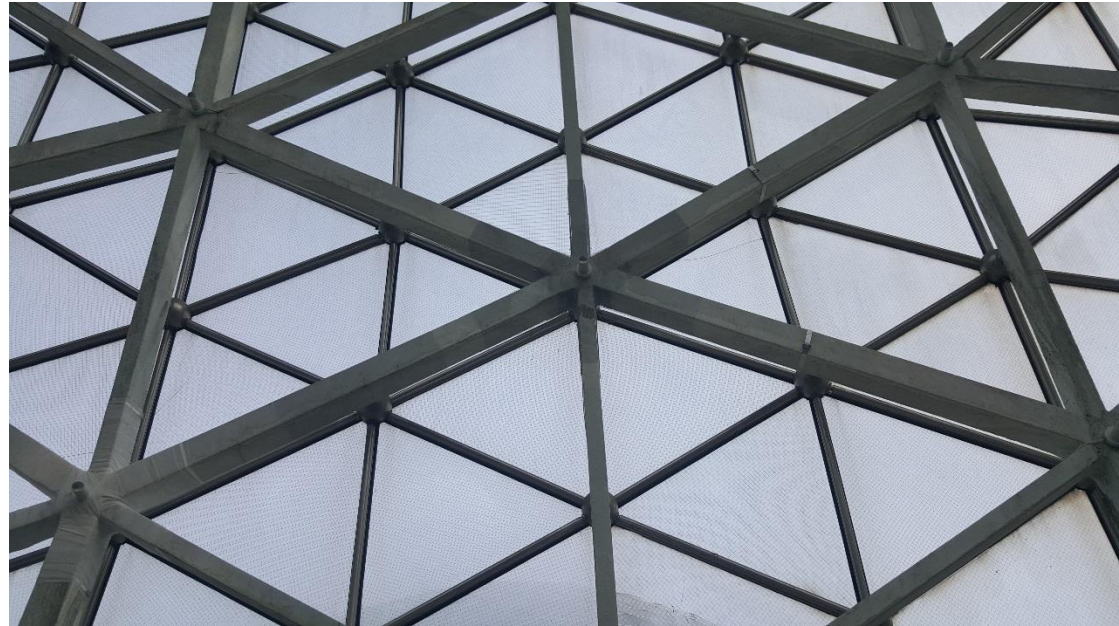




Domes Construction



5,100 Hub Connections
1,700 Per Dome



'Beehive' vs. Geodesic: Geodesic domes typically do not entail concrete frame with steel base plates.



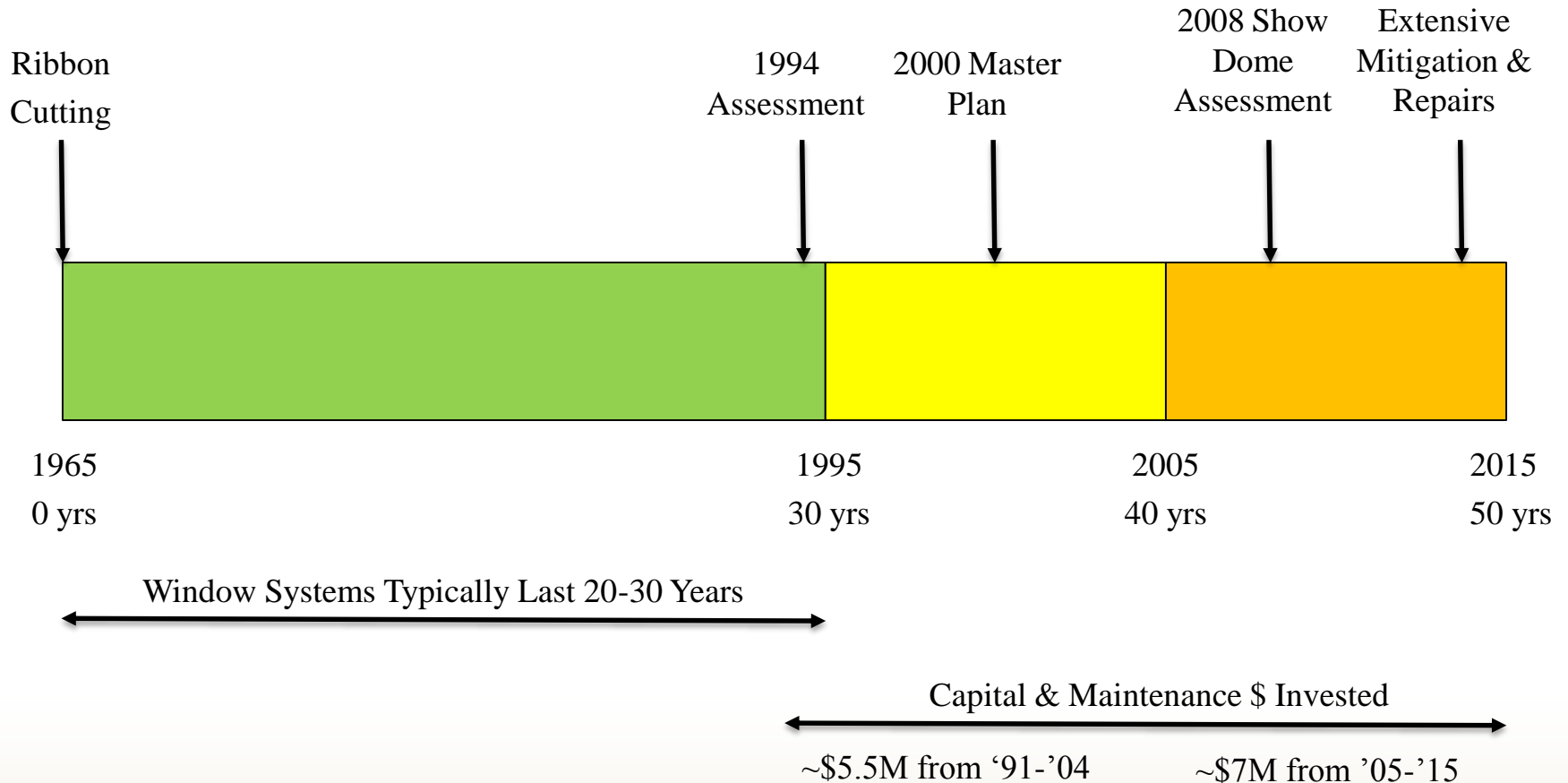


Aluminum / Concrete Hub Connection

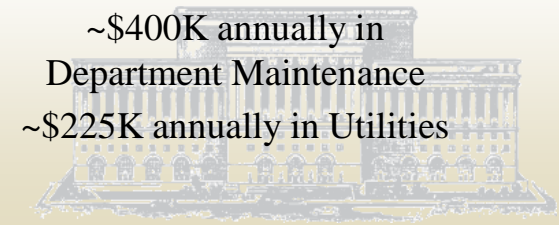




Domes Engineering Timeline



1994 to Current: Until the water infiltration is stopped, the Domes will continue to deteriorate.





Previous Cost Estimates

Previous Large-scale Renovations Reviewed

Estimate

- 1994: Complete Window Replacement \$10M (3 Domes)
 - No costs indicated for framing, drainage, concrete work, or code upgrades
- 2008: Full Restoration of Show Dome \$15M–\$18M (1 Dome)
 - No costs indicated for code upgrades and building components
- Other 2008 Options Reviewed \$4M-\$13M (1 Dome)
 - Partial restorations or replacement of Dome with geodesic structure
 - No costs indicated for code upgrades and support facility requirements





Where did the \$75M Come From

1. Full Restoration of Show Dome in 2008* \$15M-\$18M (1 Dome)
2. Adjusted to 2016 Costs Using RSMeans Construction Cost Index
3. Projected to 2019 for Potential Construction Period
4. Factor for 3 Domes
5. Add in façade costs and specialized aerial lift support
6. Add Construction Management oversight (Safety, QC, Schedule, Cost Mgt)
7. Total Range \$60M - \$71M for Full Rehabilitation Option***

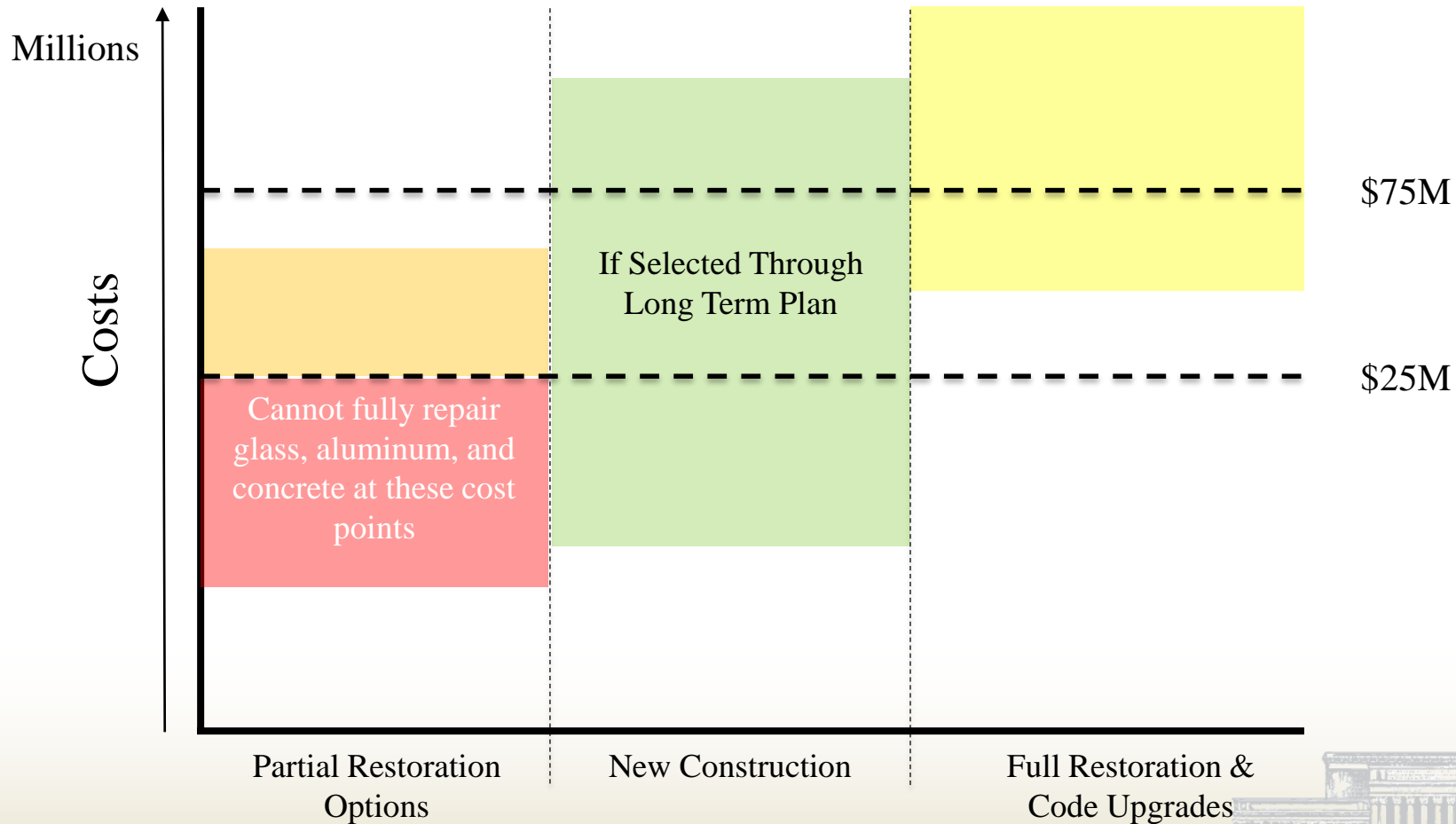
***Still does not include code required upgrades throughout.

Proposed funding resolution includes updating the 2008 options and required code upgrades.





Unique Construction = High Costs





Current Actions

- Spalling Protection to Re-Open Show Dome by end of April.
- Funds in place to begin Show Dome from original \$500K.
- Most accessible and most utilized Dome.
- Engineering still field testing options.
 - Final costs highly dependent on material selection and work plan.
 - **Reviewing cost saving options while ensuring maximum safety, adequate sunlight, and preserving aesthetic value.**

Looked at:

- Covered pathways
- Cast netting
- Wrapping concrete structure





Protective Option: Wire Mesh





Protective Option: UV Resistant Wrap





Next Step Actions

- Assess lessons learned in Show Dome for efficiencies and cost control.
- Spalling Protection to Re-Open Arid and Tropical Domes
- Extremely difficult to access, but attainable.
- Specialized lift required.
 - We have only been able to get one lift at a time, but are looking into options for concurrent work.
- Schedule will be based on Show Dome experience, lift availability and funding.

Plan to provide more schedule details at March 8th
Parks Committee Update.





The Next Chapter

- We intend to report to the Board's Parks, Energy, and Environment Committee on The Domes in the Mitchell Park Conservatory on March 8, 2016.
 - We will have updated engineering plans and better cost estimates at that time.
- We ask for your guidance and support as we continue this process.
- We are looking forward to robust and engaging Community Conversations.





Planning for the Future

The Domes Conservatory at Mitchell Park is over 50 years old, and the structure now requires major capital maintenance. Given the large costs of repair or restoration, the County Executive is proposing a public process to develop, review, and oversee the development of a plan to address the future of this iconic regional attraction, a key landmark on Milwaukee's landscape.





Planning for the Future

- Which options are on the table?
 - Repair the Domes?
 - Complete Restoration of the Domes?
 - Rebuild the Conservatory Domes?
 - Envision a new future of the Mitchell Park Conservatory?
- We are committed to engaging with the public in a long-term planning process that is transparent and comprehensive



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<http://county.milwaukee.gov/Domes>



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